

National Emergency Services School, Civil Air Patrol
Mission Aircrew School
OBSERVER/MISSION PILOT TRAINING FLIGHT #1 INTRO & ROUTE
STUDENT
B Flight / Area B

- A. PRE-FLIGHT BRIEFING
 - 1. Sign in personnel, aircraft, and vehicles. Use mission flow chart
 - 2. Discuss purpose of the flight:
 - a. Locate the following communications equipment and discuss their use:
 - 1) Nav/Comms
 - 2) DME
 - 3) ADF
 - 4) GPS
 - 5) CAP radio
 - 6) Audio panel
 - 7) Intercom
 - 8) Push-to-talk pushbuttons and mike
 - b. Assist the pilot with radio aids:
 - 1) Set up radios (tower frequency)
 - 2) Obtaining taxi and takeoff clearances
 - 3) Mission Base reports (FM radio)
 - 4) Obtaining weather updates in-flight
 - 5) Pilot Weather Reports (PIREP)
 - c. Route search – See below for details
 - 3. Initiate a 104.
 - 4. Have the observer trainee give the aircraft passenger and safety briefing:
 - a. Demonstrate use of safety belts and harnesses
 - b. Identify emergency exits
 - 5. Assist the trainee in setting up the proper communications frequencies for the CAP radio, DF, and tower. Enter the proper nav/comm frequencies, enter first destination in the GPS. Demonstrate setup of the audio panel. Then have the trainee:
 - a. Observe operation of the communications and navigation equipment.
 - b. Contact BAK Tower (118.6) and give required information.
 - c. Give wheels up, time in the grid, time out of the grid, and wheels down reports.

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B. DEPARTURE, IN-ROUTE, APPROACH & LANDING COMMUNICATIONS

During the flight, the trainee should concentrate on learning to use the aircraft radios, (including the CAP radio), and navigation equipment (VOR, DME, ADF, and GPS).

1. Enroute to the search entry point, fly at 100 KIAS and 3000 MSL. Discuss what to look for during a route or parallel track search.

Whenever possible, have the trainee point out objects on the ground which resemble search visual clues, such as:

- Light colored or shiny objects
 - Smoke and fire
 - Blackened areas
 - Local discoloration of foliage
 - Fresh bare earth
 - Breaks in cultivated field patterns
 - Water and snow
 - Tracks and signals
 - Birds and animals
2. Upon reaching the edge of class D airspace have the trainee report entering the search route. Have the trainee follow the route on both sectional and the Hwy or DeLorme map.
 3. Turn Northeast towards St. Louis #78. Tune to the Shelbyville VOR (112.0) and perform the following tasks:
 - A. Verify the Morse code.
 - B. Determine radial.
 - C. Select on GPS and compare heading.
 - D. Select on DME and compare heading and distance to GPS.
 - E. Use GPS nearest airport feature to determine heading / distance to I34.
 - F. Select I34 as destination in GPS.
 - G. Enter N 39° 26' W 085° 38' as a waypoint, fly to it, and describe the nearest landmark.
 - H. Write down cross-radials at this point using SHB and RID.

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C. ROUTE SEARCH

This exercise requires that the trainee plan a route search prior to the exercise (i.e., homework). The trainee should use an St Louis sectional to plan this exercise. The trainee should have planned for:

1. A route search of St Louis #78 railroad, entering at the Waldron, Southeast to Greensburg and return covering Hwy 74.
2. Search should be conducted at 1000' AGL, 1nm track spacing, and 90-100 kts.
3. Determine the lat/long of the entry and exit points. In addition, the entry and exit points should be fixed using VOR cross-radials.
4. Determine the magnetic heading and distance (nm) from BAK to the entry point.
5. Determine the VOR cross-radials to the entry point.
6. Determine the inbound course from the exit point to the SHB VOR.
7. Mark your sectional accordingly.

D. RETURN TO BAK

1. Discuss anticipated communications with tower, and let the trainee handle communications during the approach and landing. Have the trainee report out of the area (edge of Class D or before) and wheels down.
2. Discuss anticipated taxi instructions, and let the trainee handle communications with ground control (121.6).

E. DEBRIEFING

1. Answer any questions.
2. Complete the 104.
3. Sign the trainee's qualification card or 101-T.